

Employee Spotlight: Ron Barber

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Ron Barber, a mechanical engineer in the Laboratory's Accelerator Operations and Technology Division, has always enjoyed the great outdoors for fun and exploration, but six or seven years ago he began to combine his love of nature and open spaces with a personal interest in researching the astronomical knowledge of long-ago civilizations that once inhabited the American Southwest and the Sierra Madre Mountains in Mexico.

"People have been watching, and to some extent recording, the sky since the beginning of time," Barber explains. "The stone calendars that I'm particularly curious about are ancient petroglyphs and petrographs—stone carvings and drawings or paintings—that were created in such a way that they mark summer and winter solstices, equinoxes and other important dates when combined with the natural progression of sunlight or shadows across the design."

Taking advantage of his engineering background, Barber and the loose network of friends who accompany him on many of his treks use modern-day surveying

techniques, three-dimensional predictive modeling and time-lapse photography to help identify unique cultural variations in calendar design and study the calendars' technological evolution over time.

"Just when we think we've seen it all, we find something totally unexpected that provides us with new insights and questions," Barber says. "And all the while our list of places to explore gets longer and longer. There are hundreds of stone calendar sites near ancient inhabited areas, and every time I give a presentation about our project, someone will suggest that I take a look at a nearby possibility that I didn't know about. So the hobby definitely has gotten out of hand, but my fellow calendar sleuths and I are having a blast. Besides, it's a great way to challenge ourselves mentally and physically and avoid doing chores at home!"

Bugs, thorns, clouds and rattlesnakes

Barber and his core team—about a dozen men and a couple of women—often hike, raft, kayak or climb long distances to reach the stone calendars in remote parts and in the process routinely put up with bugs, thorns and the weather's vagaries and extremes.

"A lot of people are fascinated by what we do," Barber suggests, "but few have the dedicated passion to get up before sunrise in the freezing cold in order to catch a fleeting ray of sunlight or shadow travel across a calendar only to find that it's cloudy and may stay that way for an extended period of time."

Early one autumn morning, Barber was scanning a rock face with his binoculars for a petroglyph when he heard some rustling in a pile of fallen leaves. He initially did not pay much attention until he suddenly heard the distress call of a Blue Jay in a nearby tree. Turning around, Barber saw the largest diamondback rattlesnake he had ever seen creep up behind him.

"The snake's head was as big as my fist," Barber recalls. "The body was about six feet long and the width of my forearm. The diamondback's forked tongue tasted the air as it approached me."

Barber escaped unharmed that day, but many of his companions have had close calls with rattlers as well. "Since most of the calendars are located on south-facing rock formations, they make good hiding places for snakes," Barber admits with a grin. "I finally decided to get some ankle snake chaps, which makes my wife very happy."

Barber works for the Accelerator Operations and Technology Division's Mechanical Design Engineering group.

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To briefly experience a summer solstice in an ancient setting, consider watching the PBS webisode [Summer Solstice at Chaco Canyon](#) on YouTube.

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